

METHOD FOR USING CRC AS METADATA TO PROTECT AGAINST DRIVE
ANOMALY ERRORS IN A STORAGE ARRAY

ABSTRACT

A method and system for disk drive data recovery makes one or two comparisons to determine if data read from a disk drive is valid. If it is determined to be invalid, reconstructed data from the parity data is used. In all comparisons, CRC metadata is compared with either the CRC generated from the data read from the disk drive or the CRC generated from the data reconstructed from the parity drive. In the first comparison, if the CRC metadata matches the CRC generated from the data read from the disk drive, the data from the disk drive is accepted as valid. Otherwise, a second comparison is made between the CRC generated from data reconstructed from RAID parity and CRC metadata. In the second comparison, if there is a match, the reconstructed data is used as the valid data; otherwise, the data read from the disk drive is used as valid data. Error detection and correction codes other than CRC may be used.